# Bell System (Telephones) Ltd.

# bell*issimo*

## Video Door Entry System

## 1 Way

## Installation & Operation Manual

PD-097 Issue 2

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# bell*issimo* 1 Way Video Entry System

## Introduction

### Description

A bell*issimo* video door entry system consists of a door panel, positioned at the entrance of a building, a video telephone (videophone), placed inside of the building for the convenience of the occupant and a power supply and controller which are usually located inside an electrical cupboard. The door panel comprises of a two-way speech unit, a camera and a push button – which must be depressed by a visitor to initiate a call. The videophone, which rings in response, allows a two-way conversation via a handset whilst the caller can be observed through the integral display. The operator can selectively allow visitors access to the building by pressing a button on the videophone and so electrically releasing the door.

The bell*issimo* 1-way Video Door Entry System is suitable for any building requiring a single push button at the entrance, such as houses, individual flats and offices. For multi-way systems please refer to “bell*issimo* 2-72-way Video Entry System” manual.

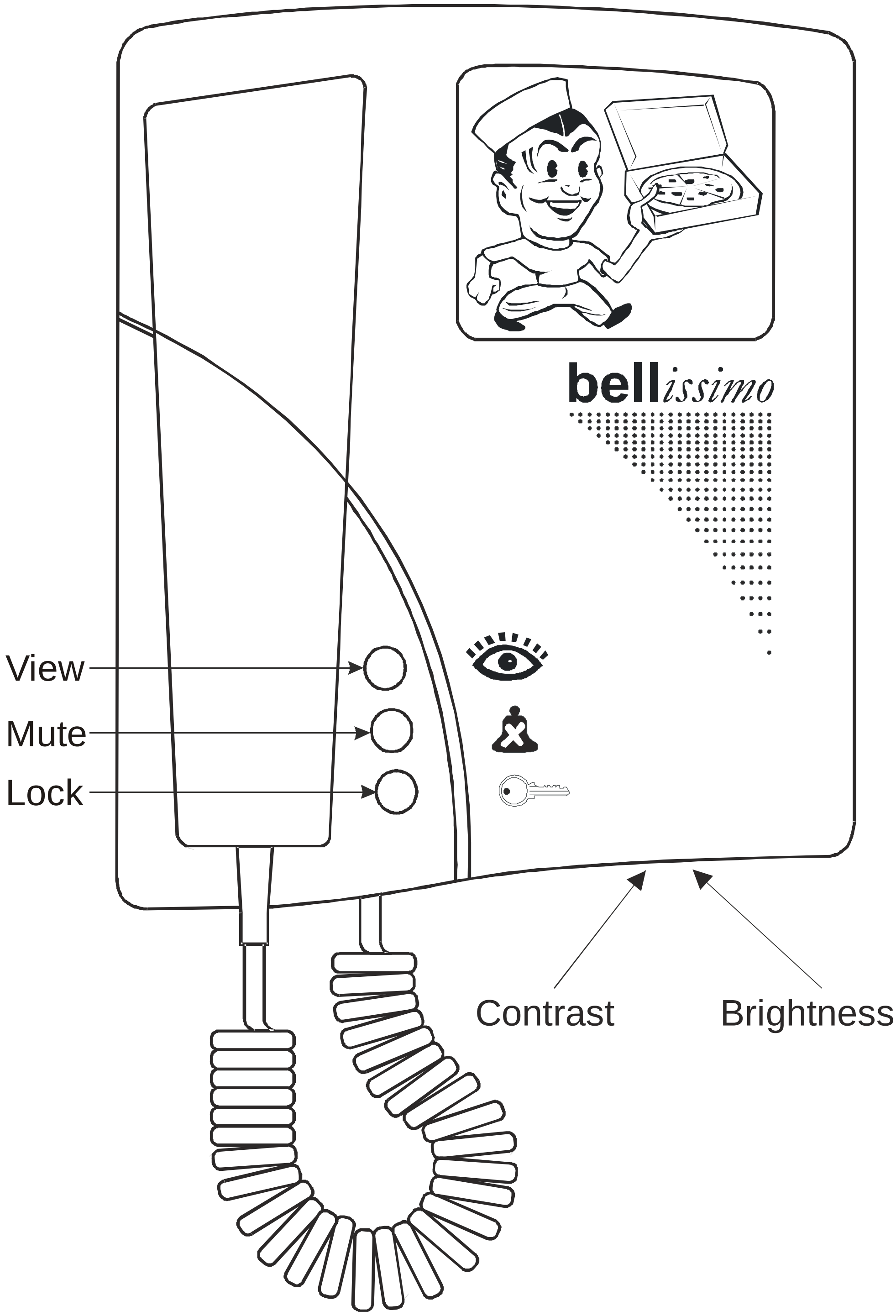
The bell*issimo* “1-way” system is supplied with a dedicated door controller, which has been specifically optimised for “1-way” systems, ensuring simple installation. This basic system can support up to 3 extension videophones (more with additional PSU’s), whilst multiple entrances can be supported with the addition of one panel and one controller for each door.

### Main Features

- CAT5 cable throughout; no co-ax required!
- 4” Flat screen display.
- High resolution CCD camera with infrared lamps.
- 12V d.c. Operation
- High quality full-duplex speech amplifier.
- Automatic picture display while ringing.
- Operator activated picture (CCTV mode)
- Ringer mute function.
- Fail safe or Fail secure lock releases and Magnetic locks.
- Lock release timer.
- Tradesman facility (optional).
- Facility for exit button and/or fire switch.
- Door ‘open’ indication.
- Second camera option.
- DDA panel options.
- Up to 3 Extension videophones.
- Multi-entrances supported.

# bell*issimo* 1 Way Video Entry System

## Diagram 1: bell*issimo* Videophone




| Button | Lamp | Steady | Flashing |
|---|---|---|---|
| View / Camera select | Amber | Call in progress | There is a call |
| Mute on/off | Red | Videophone is muted | Videophone is Off-Hook |
| Lock | Green | Door is open | Press to release lock |

# bell*issimo* 1 Way Video Entry System

## Basic System Operation

### Call sequence

When the push button is pressed at the entrance panel it causes the videophone to ring and the amber ***call*** lamp to flash. The videophone will continue to ring for up to 30 seconds or until the resident responds by picking up the handset. At this time the resident can freely converse with the visitor whose image is now displayed on the videophone; at the same time the green door lamp will flash to highlight the ***lock*** button.

The call may be terminated by replacing the handset or more usually by pressing the lock button to allow the visitor access through the entrance; the speech and picture will persist for a further 3 seconds while the door is being released.

### Silent viewing

When the videophone is ringing the resident can press the view button first instead of lifting up the handset; this will stop the videophone ringing and enable them to view the visitor for up to 60 seconds or until they press the ***lock*** button to release the door. Silent viewing can be 'normalised' at any time by picking up the handset and conversing with the visitor as described above.

### Auto Display

When 'Auto Display' mode is selected the picture will come on while the videophone is ringing, otherwise the picture will only come on when the call is answered. Auto Display mode is usually pre-selected at installation and generally only one videophone will be set in this mode (see 'Extension Videophones' below).

### Call Mute

The resident can mute the ringing sound in the videophone when they do not wish to be disturbed. Call mute is activated by pressing the ***mute*** button on the videophone, which then illuminates in red as a reminder. The handset must be on the hook for this to work. Pressing the mute button a second time will disengage the mute. During installation it is possible to set a time limit for the mute function in various values from 2 minutes up to 10 hours. When this time period has elapsed the mute will automatically disengage. (See 'mute timer', page 15).

The mute feature can be set during installation to one of two modes (or disabled altogether): -

> **Ringer Mute** only stops the audible ring, but the amber light will still flash and all other functions work normally. Ringer mute will continue for the preset time even if a call is answered. Pressing the mute button again while the videophone is idle will cancel mute.
>
> **Full Mute** prevents the videophone both from ringing or flashing the amber ***call*** lamp. Pressing the mute button again or lifting the handset will cancel full mute.

### Door Status Indication

The green ***door*** lamp on the videophone will illuminate to warn the resident that a door has been left open following a call. This feature requires a door monitor contact to be fitted.

### Call Privacy

Once a call has been answered by one videophone no other videophones may join in, view or listen to the call. If another videophones handset is picked up the videophone will not activate; pressing the view button on another videophone will be ignored.

### User Activation (CCTV Mode)

While the system is idle, pressing the view button will activate the system and display the picture at the entrance panel. Once activated, lifting the handset will enable speech at the entrance and the lock button may now be used to release the door or the user can hang-up. The picture will switch off after the preset talk-time.

### Second camera

The Door Controller has the capability of driving a second ‘third party’ ‘CCTV’ camera, which is located nearby, and offering a different viewpoint. Pressing the ‘View/Camera’ button will alternate the view between the primary and secondary camera (if enabled).

### Extension Videophones

Additional videophones may be added to the basic system. The number of extensions is limited only by power supply considerations. All videophones will ring when called however typically only the Master unit will display a picture while ringing. Once the master or extension videophone is ‘picked-up’ the picture will display on that unit alone.

It should be noted that when the Master unit is left off-hook, extension videophones will not ring; the red light will flash on the Master as a warning of this condition.

### Lock Type and Operation

The door controller supports both fail-secure and fail-safe locks including magnetic locks of up to 1A rating. The lock output is provided by relay contacts, which in the event of power failure are open.

On pressing the lock button the lock timer will start and the door will unlock. The picture (and speech if active) will persist for the first 3 seconds of lock operation. For Lock Time settings see page 12.

### Exit Button and Fire Switch

An input is provided for an exit button, which can be installed on the inside of the door and allow residents to exit freely. Momentary operation of this button will operate the lock release for the programmed lock time. A Fire switch or other override device may use the same input to hold the door open indefinitely.

### Trades Facility

Use of a time clock in conjunction with a trades button will allow free access during the programmed time.

**DDA Functionality**

A range of options exists for entrance panels, which meet the requirements of the Disability Discrimination Act (DDA) including Braille buttons and LED indicators. Contact your sales representative for further details.

**Multiple Entrances**

The bell*issimo* One-way System allows multiple entrances to be catered for by the addition of one door controller and one entrance panel for each entrance and in some instances additional power supplies. In a multiple entrance system an optional feature allows the resident to view the cameras at all the entrances with successive presses of the 'camera select' button.

For details of this camera feature and user activation see the setting for 'Camera Numbering' on page13.

# bell*issimo* 1 Way Video Entry System

## Design Considerations

### Equipment List

A BS1 one-way bell*issimo* Video Kit comprises the following: -

| Model No | Description |
|---|---|
| 1 x BS | Videophone |
| 1 x BSP1 | Standard or panel with a model 61 speech unit and Cam BV. |
| 1 x BSD1 | Door controller. |
| 1 x PS4 | 4A 12V power supply. |
| 1 x 203 | Fail-secure lock release |

For **a Vandal Resistant Panel** order a BS1/VR Kit

**Options**

For a 1 way system the following options are available: -

- Extensions Model **BS** Videophone(s)
- Additional entrances, each comprising a **BSD1** controller and **BSP1** panel. (See also PSU requirements)
- Alternate lock releases, fail-safe and fail-secure
- Trades facility; specify **BS1+TRBS;** includes a model **TS2000-BST** time-clock
- Exit button.
- Battery back up PSU, **Model 840** (12V 4A)
- **DDA** panels (Contact sales for further information)

**Entrance Panel**

Careful consideration should be given to the location of the entrance panel to ensure the best possible lighting conditions for the camera. In general strong back lighting of the subject (by the sun and sky) should be avoided, as the contrast between foreground and background may be too great for the camera. The field of view should contain as little of the sky as possible, particularly if south facing. If a backlit situation is unavoidable, additional lighting may be necessary to illuminate the caller and avoid a dark outline image (silhouette).

**Door Controller**

The door controller and PSU should be wall-mounted in a convenient cupboard or other protected environment with available mains power. Cable length to the entrance should be less than 50m. The door controller for the second and subsequent entrances may be situated in the same location, or to meet the 50m requirement may be situated in another location. Power supplies may be shared between door controllers placed in the same location, but controllers in separate locations should be separately powered.

# bell*issimo* 1 Way Video Entry System

## Power Supply Requirements

**The system is powered by 12V PSU's only: -**

PS4 12V, 4A

340C 12V, 1.5A Optional for extensions

Note 1. The 28V refered to on the videophone, door controller and wiring diagrams is internally generated in the controller. DO NOT use any PSU other than 12V or damage may occur.

Note 2. The PS4 power Supply has been specifically designed to operate with the high-surge requirements of the system. Bell Systems are unable to guarantee functionality or provide support for systems which use third party power supplies.

Exact power supply requirements depend upon many factors. The number of power supplies included within a standard 'kit' assumes that all controllers are installed in one location and that there are no extensions.

The following table is a guide: -

(Please contact Technical support for other variations)

| System | Power Supplies | Comments |
|---|---|---|
| BS1 Kit | 1 x PS4 | Supplied in kit |
| BS1 & 3 Extension videophones (No auto display) | 1 x PS4 | Only the Master videophone will have auto display |
| BS1 & 3 Extension videophones (All with auto display) | 1 x PS4<br>3 x 340C | A 340C will supply each of the extension videophones |
| 2 Door one-way system | 1 x PS4 | Both BSD1 door controllers must be in the same location |
| 3 Door one-way system | 2 x PS4 | 2 BSD1 door controllers per PS4 power supply |

Assumes maximum Lock Release current of 1A

## Cable Specification.

All system wiring must be carried out using **CAT5** signal cable and where necessary 1mm² (or greater) power cable as tabulated below. CAT5 cable has a known performance for the transmission of video signals, whilst telephone or alarm cables are not suitable. **Bell Systems will be unable to offer any warranty or support for systems installed using incorrect cables.**

### CAT5 cable

CAT5 is our short reference for EIA standard UTP Category 5 Unshielded Twisted Pair data cable. This is a standard solid core twisted pair cable having 4 pairs (8–cores) and no shield. The cores are in pairs where Blue and ‘Blue with a White stripe’ are twisted together as the first pair. The other three pairs are similar with main colours Orange, Green and Brown.

- Also available and acceptable are:
  UTP Category 5e (CAT5e)
  UTP Category 6 (CAT6)
  UTP Category 6e (CAT6e)

The exact cable can be chosen from the above on cost and availability grounds.

- STP (Shielded Twisted Pair) cables are **not** recommended.
- UTP patch cables are **not** recommended.

NOTE: CAT5 cable is easily identifiable as it has its specification printed on the sheath

### Cable Distances (refer to diagrams A and C)

| **Door Controller to Videophone** | | | |
|---|---|---|---|
| System | Distance | Cable | Comments |
| System with single videophone | < 75m | 1 x CAT5 | |
| | < 300m | 1 x CAT5<br>2 x 1$mm^2$ | |
| System with 3 Extension videophones:<br>Single PS4 power supply | < 50m | 1 x CAT5 | Only Master videophone has ‘Auto display’ |
| System with 3 Extension videophones:<br>Extensions each 1 x 340C PSU | < 300m | 1 x CAT5 | All videophones have Auto display |
| | <5m each 340C | 2 x 1$mm^2$ | |
| **Panel to Door Controller** | | | |
| All Systems, each entrance | <50m | 1 x CAT5 | Basic Features only |
| Lock Release up to 1A | <10m | ¼ x CAT5 | |
| | <50m | 2 x 1$mm^2$ | |
| Option: Exit button | <50m | ¼ x CAT5 | |
| Option: Trades button | <50m | ¼ x CAT5 | Requires a Time-clock |
| Option: Door Monitor Switch | <50m | ¼ x CAT5 | |
| **Power Supply to Door Controller** | | | |
| All Systems, each PS4 to BSD1 | <3m | 2 x 1$mm^2$ | |
| | <5m | 2 x 1.5$mm^2$ | |

NB. A CAT5 cable has 4-pairs (8 cores)

For larger cable distances please contact manufacturer.

# bell*issimo* 1 Way Video Entry System

## Installation & Commissioning

The following checklist is a reminder of what is required. Refer to the relevant pages for further details.

- Review the section headed ‘Important Safety Information’.
- Ensure that ‘Design Considerations’ have been studied and understood.
- Confirm that CAT5 cable has been specified.
- Install the system according to instructions in this section.
- Check/set the Door Controller Dipswitch and Jumper settings.
- Check/set each Videophone Dipswitch settings.

# bell*issimo* 1 Way Video Entry System

## Wiring

Refer to Diagram B for single entrance systems and Diagram D for multi-entrances.

All wiring is carried out using a mixture of CAT5 for the signal wiring and 1mm² (or greater) cores for the power wiring; refer to Page 8 for further details. It is strongly recommended that a consistent colour code be used throughout such as that indicated on the connection diagram. Certain signals must be interconnected using a twisted pair from the CAT5 cable. These are clearly marked on the connection diagram and should be strictly observed.

### Entrance Panel

The panel should be mounted at an optimum height of 1.6 m, measured between the ground and the centre of the camera window. With flush mounting panels it is advisable to apply mastic to the top edge of the panel to prevent water ingress behind the panel. On construction sites the panel must be protected from corrosive substances such as 'brick acid'. The panel should be cleaned only with a damp cloth containing dilute detergent.

### Videophone

The Videophone is designed to be wall mounted onto plasterboard or other masonry at an optimum height of 1.6m. It should be fixed with three No 8 screws (not supplied). Use the template included with the videophone to mark out the drilling positions, and drill the three holes and insert the appropriate wall plugs. If the cable is to be feed from the wall cavity then make a hole for this at the same time. Fit the top two screws but do not fully tighten. Now remove the top cover of the videophone, which is secured by clips at both sides. If top or bottom cable entries are required, careful remove the appropriate cutout with side snips taking care not to damage any internal components. Hang the videophone on the two screws already fitted allowing the cable (if present) to feed through and the third screw to be inserted at the bottom. Tighten all three screws. Before replacing the Front Cover remove the protective film from the display lens and also check that the DipSwitch settings are correct or change as necessary (see Page 15).

### Electric Door Release

Both fail-secure and fail-safe lock releases (inc. magnetic locks) use the same terminals. To set the lock type, refer to the "Door Controller Switch" settings. When installing lock releases please allow a little movement on the door, as operation will be impaired if fitted too tight.

NB. Magnetic locks (maglocks) must be fitted with a suppressor at the lock terminals. Some manufacturers fit an acceptable internal suppressor.

### Exit Button Input

This input is for a normally open push button. 'Exit +' is the input and 'Exit –' is internally connected to 0V.

### Door Open Switch

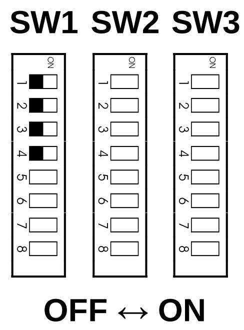
This switch can have closed contacts when the door is open or open contacts when the door is open. Dip SW2-5 sets the choice. The default of 'contacts closed when door open' must be selected when this feature is not required.

## BSD1 Door Controller Settings

### BSD1 Door Controller Switch Settings

**Talking Time/Videophone Active DIP SW1 (1-4)**

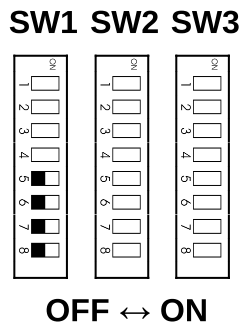
| 4 | 3 | 2 | 1 | Talk Time |
|---|---|---|---|---|
| On | On | On | On | 15s |
| On | On | On | Off | 20s |
| On | On | Off | On | 30s |
| On | On | Off | Off | 45s |
| On | Off | On | On | 60s |
| On | Off | On | Off | 75s |
| On | Off | Off | On | 90s |
| On | Off | Off | Off | 120s |
| Off | On | On | On | 150s |
| Off | On | On | Off | 180s |
| Other settings | | | | 60s |
| **Off** | **Off** | **Off** | **Off** | **60s*** |




* Default setting

**Ringing Time/Call Time and Ring Effect DIP SW1 (5-8)**

| 8 | 7 | 6 | 5 | Call Time | Ring Cadence or Sound Effect |
|---|---|---|---|---|---|
| On | On | On | On | 5s | 1 in 3 – 1 ring every 3 seconds |
| On | On | On | Off | 8s | 1 in 3 – 1 ring every 3 seconds |
| On | On | Off | On | 10s | 1 in 3 – 1 ring every 3 seconds |
| On | On | Off | Off | 15s | 1 in 3 – 1 ring every 3 seconds |
| On | Off | On | On | 20s | 1 in 3 – 1 ring every 3 seconds |
| On | Off | On | Off | 30s | 1 in 3 – 1 ring every 3 seconds |
| On | Off | Off | On | 40s | 1 in 3 – 1 ring every 3 seconds |
| On | Off | Off | Off | 45s | 1 in 3 – 1 ring every 3 seconds |
| Off | On | On | On | 50s | 1 in 3 – 1 ring every 3 seconds |
| Off | On | On | Off | 60s | 1 in 3 – 1 ring every 3 seconds |
| Off | On | Off | On | 30s[1] | 1 in 3 (Reserved For future use) |
| Off | On | Off | Off | 30s[1] | 1 in 3 (Reserved For future use) |
| Off | Off | On | On | 30s[1] | 2 in 15 – 2 rings, 15S silence, repeat |
| Off | Off | On | Off | 30s[1] | 1 in 15 – 1 ring, 15S silence, repeat |
| Off | Off | Off | On | 30s[1] | 1 in 5 – 1 ring every 5 seconds |
| **Off** | **Off** | **Off** | **Off** | **30s*** | **1 in 3* – 1 ring every 3 seconds** |



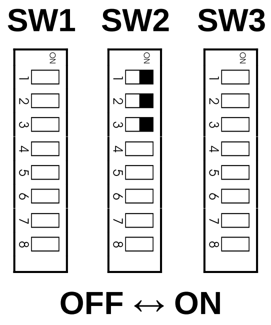

* Default setting

[1] BS videophones build 3 and above; Build 1&2 videophones: 1 ring every 2 seconds.

# bell*issimo* 1 Way Video Entry System

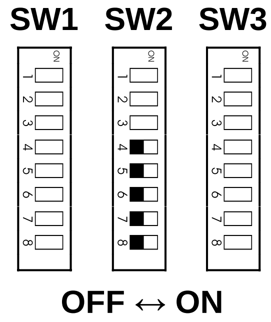
**Lock Operate Time  Dip SW2 (1-3)**

| 3 | 2 | 1 | Lock Time |
|---|---|---|---|
| **On** | **On** | **On** | **3s*** |
| On | On | Off | 4s |
| On | Off | On | 5s |
| On | Off | Off | 6s |
| Off | On | On | 8s |
| Off | On | Off | 10s |
| Off | Off | On | 15s |
| Off | Off | Off | 20s |




* Default setting

**Individual Functions  DIP SW2 (4-8)**




| **SW2-4** | **Lock Type** | **Lock behaviour during power failure** | |
|---|---|---|---|
| ***Off** | Fail secure lock | Requires alternate mechanical means, key or thumb-turn to open on power failure | |
| On | Fail safe lock | Lock opens on power failure | |
| **SW2-5** | **Door Status Switch** | **Monitors doors left open** | From build 2 onwards |
| ***Off** | Contacts Open when Door is Closed | The default allows for no switch fitted | |
| On | Contacts Closed when Door is Closed | Standard normally closed switch | |
| **SW2-6** | **Camera 2** | **How many cameras at this door** | From build 2 onwards |
| ***Off** | Camera 1 only | Default – single camera per door | |
| On | Enable Camera 2 | Second camera at the door | |
| **SW2-7** | **View Function** | **Camera action when view button pressed** | From build 3 onwards |
| ***Off** | Local View | View button only selects the camera(s) at this door | |
| On | Global View (See DIP SW3 below) | View button sequentially selects all cameras at doors with this switch set | |
| **SW2-8** | **View User Activated** | **View button pressed when system is idle** | From build 3 onwards |
| ***Off** | Disabled | View button only works when called from the panel | |
| On | Enabled See DIP SW3 below | User can activate the system and look to see anyone near the door(s) | |

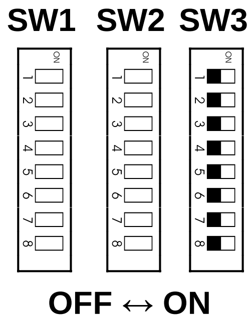
* Default setting

# bell*issimo* 1 Way Video Entry System

**Camera Numbering  DIP SW3 (1-8)**

| **Camera 1 at this door** | | | | |
|---|---|---|---|---|
| **4** | **3** | **2** | **1** | **Number** |
| On | On | On | On | 1 |
| On | On | On | Off | 2 |
| On | On | Off | On | 3 |
| On | On | Off | Off | 4 |
| On | Off | On | On | 5 |
| On | Off | On | Off | 6 |
| On | Off | Off | On | 7 |
| On | Off | Off | Off | 8 |
| Off | On | On | On | 9 |
| Off | On | On | Off | 10 |
| Off | On | Off | On | 11 |
| Off | On | Off | Off | 12 |
| Off | Off | On | On | 13 |
| Off | Off | On | Off | 14 |
| Off | Off | Off | On | 15 |
| **Off** | **Off** | **Off** | **Off** | ***16** |

| **Last Camera** | | | | |
|---|---|---|---|---|
| **8** | **7** | **6** | **5** | **Number** |
| On | On | On | On | 1 |
| On | On | On | Off | 2 |
| On | On | Off | On | 3 |
| On | On | Off | Off | 4 |
| On | Off | On | On | 5 |
| On | Off | On | Off | 6 |
| On | Off | Off | On | 7 |
| On | Off | Off | Off | 8 |
| Off | On | On | On | 9 |
| Off | On | On | Off | 10 |
| Off | On | Off | On | 11 |
| Off | On | Off | Off | 12 |
| Off | Off | On | On | 13 |
| Off | Off | On | Off | 14 |
| Off | Off | Off | On | 15 |
| **Off** | **Off** | **Off** | **Off** | ***16** |




* Default setting

**View Activated by User**

If ‘view activated by user’ is enabled, then one door controller must have SW3 1-4 set as camera 1.  Camera 1 at this entrance will then be the first camera to be viewed.

**‘Global View’ at Multiple Entrances**

If ‘Global View’ is enabled, successive presses of the view button will enable all entrance to be viewed in turn, including any second cameras, if enabled.

Setting up the door controllers to enable ‘Global View’ requires careful setting of the switches. Not all entrances have to participate in ‘Global View’, and these entrances should remain set to ‘Local View’.

The participating entrances must each be designated with a unique address 1, 2, 3, …etc in the required viewing sequence. NB the sequence must start with 1; the maximum is 16. If Camera 2 is enabled on any entrance then it will adopt the entrance address setting plus 1; the next entrance must skip that address.

Each controller must also record the last camera number in the sequence – this will be the same setting for all entrances.

Below are a couple of examples and a blank table for your use.

Example 1: -

| Entrance number | Cameras at this entrance | First Camera DIP SW3 (1-4) | Last Camera DIP SW3 (5-8) |
|---|---|---|---|
| 1 | 2 | 1 | 5 |
| 2 | 1 | 3 | 5 |
| 3 | 2 | 4 | 5 |

Example 2: -

| Entrance | Cameras at this entrance | First Camera DIP SW3 (1-4) | Last Camera DIP SW3 (5-8) |
|---|---|---|---|
| 1 | 1 | 1 | 3 |
| 2 | 2 | 2 | 3 |

Customer's setup: -

| Entrance | Cameras at this entrance | First Camera DIP SW3 (1-4) | Last Camera DIP SW3 (5-8) |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |
| 12 | | | |

## BSD1 Door Controller Jumper Settings

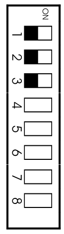
The “Video Gain” jumper on door controllers should always be set to “Low” unless directed by Bell System Technical. This jumper is only required on some systems with very long camera to videophone cable runs well in excess of 150m. Use of this jumper with short runs will cause picture problems.

## BS Videophone Switch Settings

**Mute Time Setting  SW1 (1-4)**

| 4 | 3 | 2 | 1 | Mute Time |
|---|---|---|---|---|
| On | On | On | On | Disabled[1] |
| On | On | On | Off | 2 minutes |
| On | On | Off | On | 5 minutes |
| On | On | Off | Off | 10 minutes |
| On | Off | On | On | 15 minutes |
| On | Off | On | Off | 20 minutes |
| On | Off | Off | On | 30 minutes |
| On | Off | Off | Off | 45 minutes |
| Off | On | On | On | 1 hour |
| Off | On | On | Off | 2 hours |
| Off | On | Off | On | 4 hours |
| Off | On | Off | Off | 5 hours |
| Off | Off | On | On | 6 hours |
| Off | Off | On | Off | 8 hours |
| Off | Off | Off | On | 10 hours |
| **Off** | **Off** | **Off** | **Off** | ***Indefinite[2]** |

**SW1**



**OFF ↔ ON**

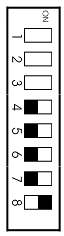
* Default setting

[1]Disabled means pressing the mute button has no effect.

[2]Indefinite; the mute is cancelled by pressing the button again.

**Individual Functions  DIP SW1 (5-8)**

**SW1**



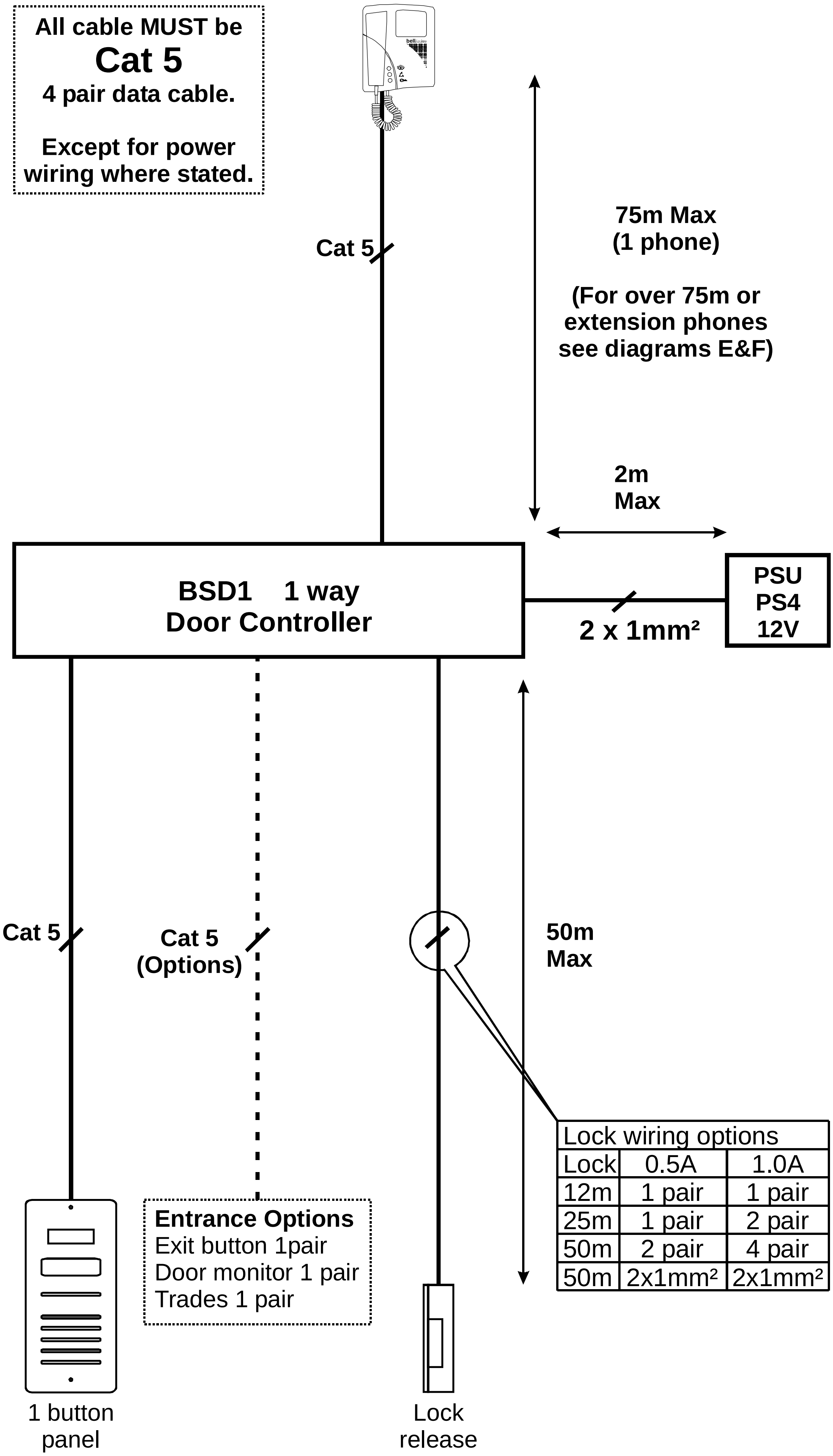
**OFF ↔ ON**

| **SW1-5** | **Master / Slave** | **Extension videophones are slaves** |
|---|---|---|
| ***Off** | Master videophone | Single videophone or one in daisy-chain is master8 |
| On | Slave videophone / Extension | Extra videophones per call or flat |
| **SW1-6** | **Auto Display on Ring** | **Caller visible while ringing** |
| ***Off** | Display During Ring | Yes |
| On | No Display During Ring | No |
| **SW1-7** | **Mute Function** | **Action of mute button** |
| ***Off** | Ringer Mute Only | No sound, Visible ring – view flashes, picture if enabled |
| On | Disable Videophone | Same as leaving off hook but steady not flashing button |
| **SW1-8** | **Video Terminator** | **Prevents cable reflections** |
| Off | No Termination | Daisy-chained videophones not at end of cable |
| ***On** | Terminate – Last Videophone | Must be on in videophone at end of cable |

* Default setting

# bell*issimo* 1 Way Video Entry System

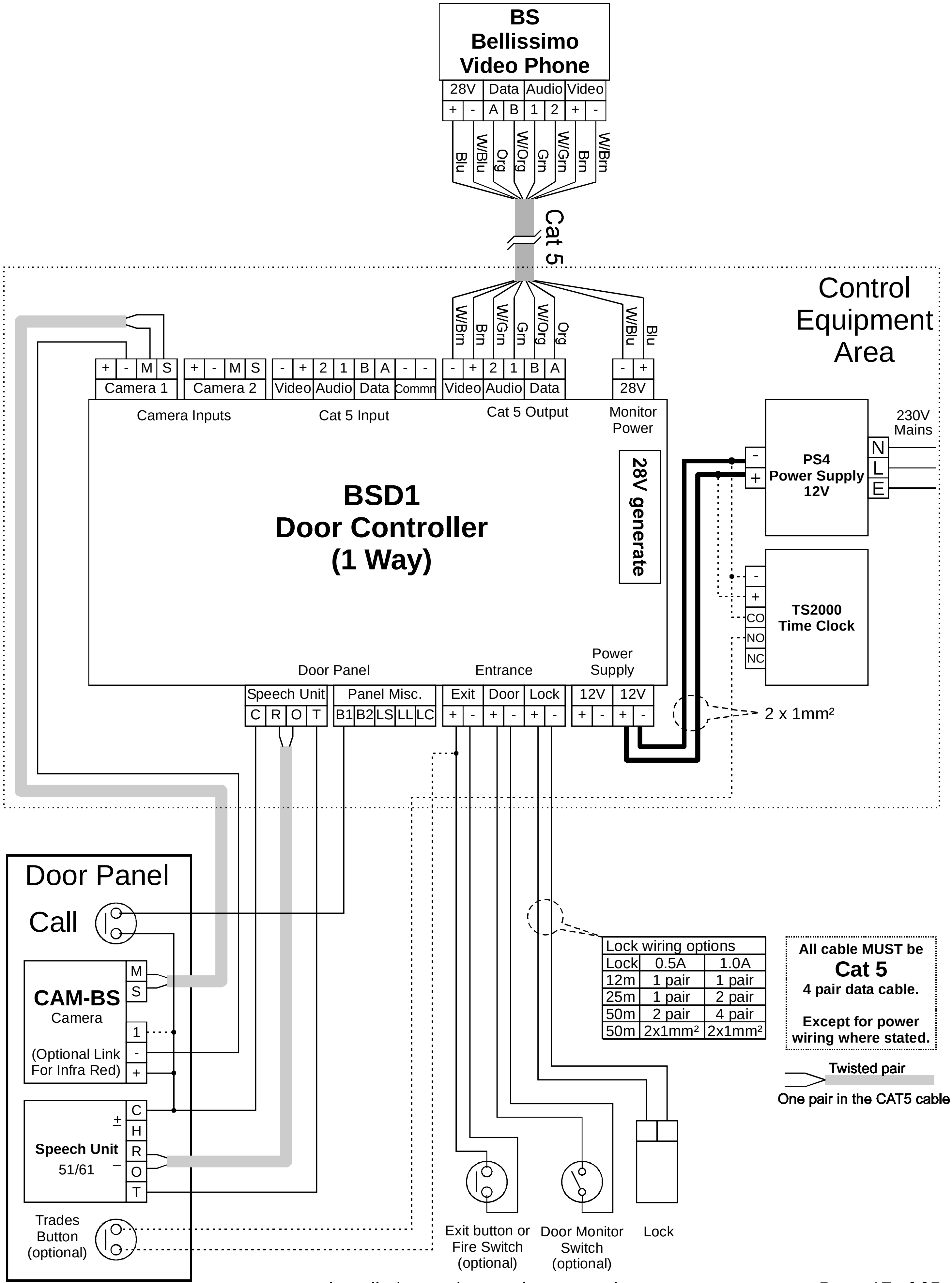
## Diagram A – 1 Way Basic System Overview Cabling




| Lock wiring options | | |
|---|---|---|
| Lock | 0.5A | 1.0A |
| 12m | 1 pair | 1 pair |
| 25m | 1 pair | 2 pair |
| 50m | 2 pair | 4 pair |
| 50m | 2x1mm² | 2x1mm² |

# bell*issimo* 1 Way Video Entry System

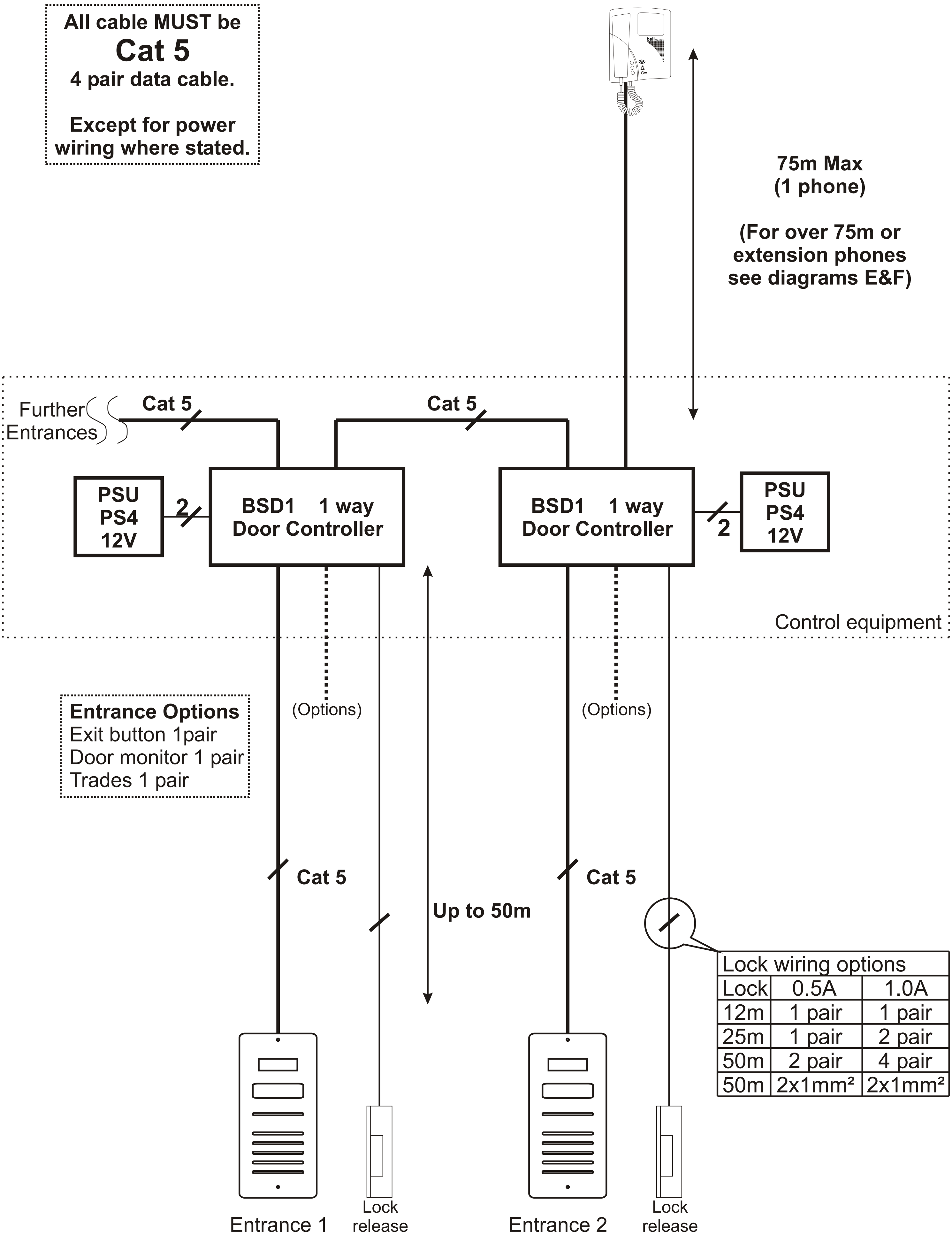
## Diagram B – 1 Way Basic System Wiring Detail




| Lock wiring options | | |
|---|---|---|
| Lock | 0.5A | 1.0A |
| 12m | 1 pair | 1 pair |
| 25m | 1 pair | 2 pair |
| 50m | 2 pair | 4 pair |
| 50m | 2x1mm² | 2x1mm² |

# bell*issimo* 1 Way Video Entry System

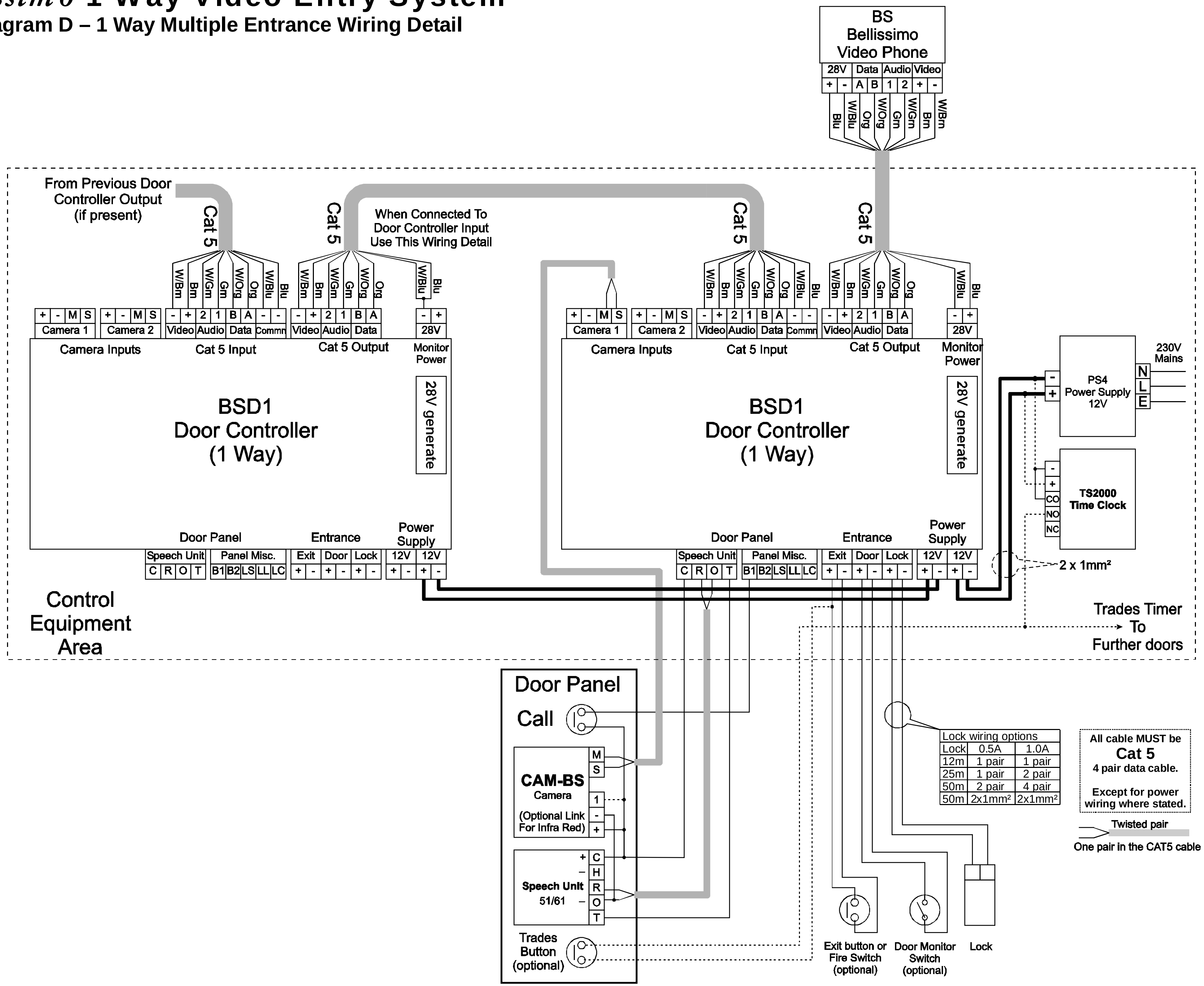
## Diagram C – 1 Way Multiple Entrance Overview Cabling




| Lock wiring options | | |
|---|---|---|
| Lock | 0.5A | 1.0A |
| 12m | 1 pair | 1 pair |
| 25m | 1 pair | 2 pair |
| 50m | 2 pair | 4 pair |
| 50m | 2x1mm² | 2x1mm² |

# bell*issimo* 1 Way Video Entry System

## Diagram D – 1 Way Multiple Entrance Wiring Detail



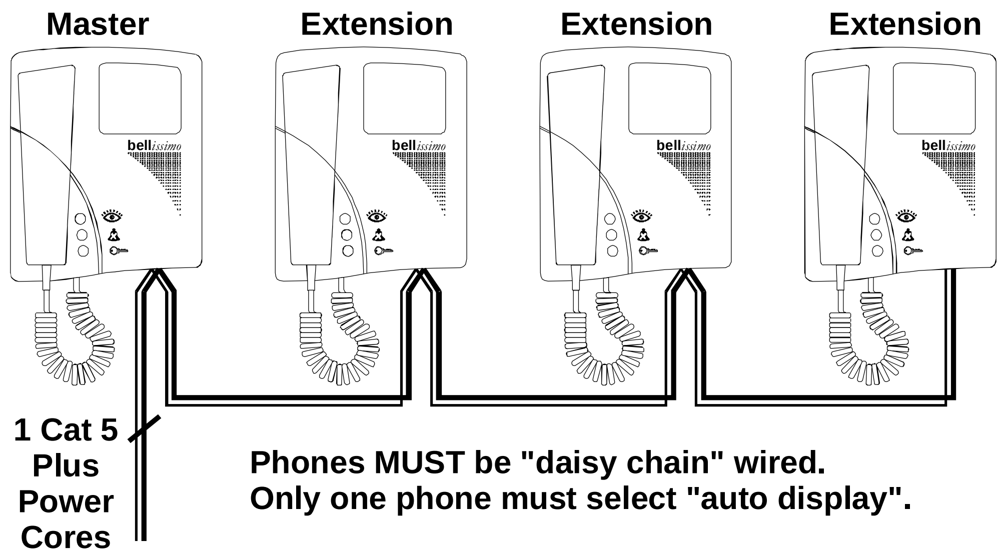

Lock wiring options

| Lock | 0.5A | 1.0A |
|---|---|---|
| 12m | 1 pair | 1 pair |
| 25m | 1 pair | 2 pair |
| 50m | 2 pair | 4 pair |
| 50m | 2x1mm² | 2x1mm² |

# bell*issimo* 1 Way Video Entry System

## Diagram E –Videophone and Extension Wiring

**The 75m Cat 5 limit is only for a single phone powered by a controller
For longer runs or extension phones additional power cores
will normally be required**



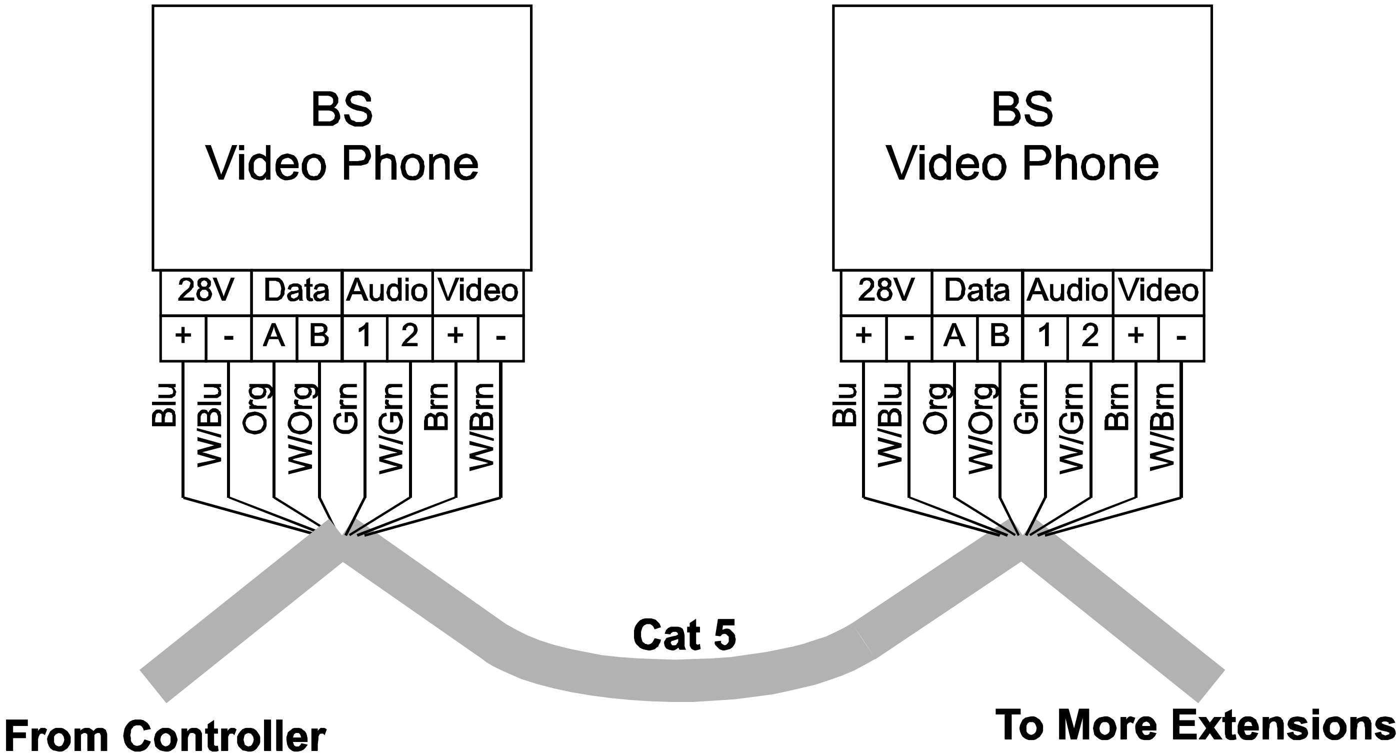

**Phones MUST be "daisy chain" wired.
Only one phone must select "auto display".**

**Warnings for each flat run :-**

Only one phone must be Master (Recomend first phone)

Auto display on one phone only (For auto display on multiple phones see Diagram F)

Last (or only) Phone on cable requires Dip-switch 8 ON all other Phones Dip-switch 8 OFF

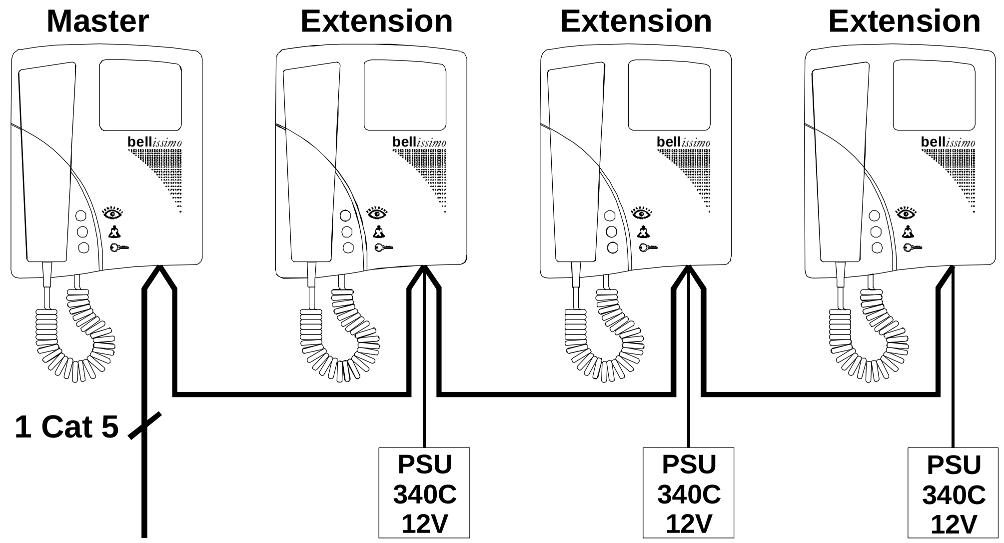



When additional power cores are required
replace Blu and W/Blu with the thicker wires

# **bell*issimo* 1 Way Video Entry System**

## Diagram F – Videophone Local Power Wiring

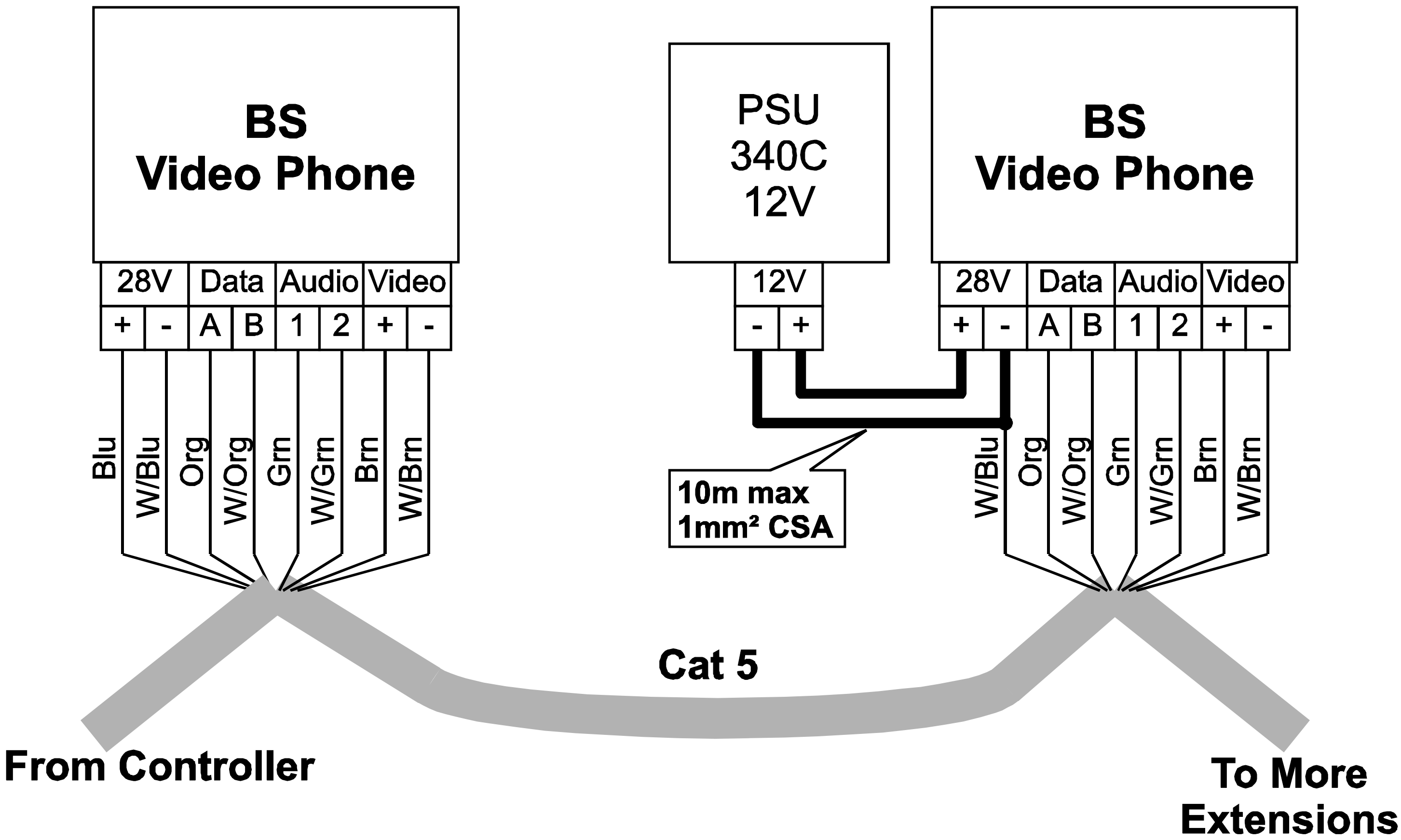
**Where more than one extension phone is required to provide "auto display" then additional power supplies will be required**




IMPORTANT:

The 28V - connection must be made between all phones and the controller.

The 28V + connection is only connected to the local power supply.



# bell*issimo* 1 Way Video Entry System

## Troubleshooting

| Power Problems | |
|---|---|
| Videophone resetting<br>(All three indicators lights come on at once and then go off). | • Power supply intermittent short or overload.<br>• More than 1 extension enabled for auto display.<br>• Lock output short-circuit; see 'Lock Problems' |
| 28V LED does not light on controller. | • Temporarily remove connection to 28V+ output. |
| PS4 output voltage fluctuating, meter reading unstable. | • Output overload is causing current limit to operate<br>• See Lock Problems below |

| Video Problems | |
|---|---|
| Blank picture when: -<br>Calling videophone/<br>Pressing view | • Broken or missing Video + or Video – wire.<br>• Cameras incorrectly configured refer to SW2-6<br>• Call is from an audio only panel. |
| No picture when calling videophone | • Check Auto display switch is on.  See page 15 |
| No picture when pressing view | • Another videophone in use<br>• SW2-8 not set to 'Enable'<br>• No entrance has SW3 1-4 set to 1 (all ON) |
| Repeated pressing of view does not select cameras in sequence as expected. | • Check SW2-6 at all entrances is set for correct number of cameras at that entrance<br>• Check settings for SW3 if SW2-7 is enabled<br>• See section 'Global View' on page 13 |
| Unstable picture | • Power supply voltage low.<br>• Terminator switch not set on last videophone.<br>• Too many terminator switches set on.<br>• Video gain jumper set to high on a short run.<br>• Very bright area in background upsetting camera. |
| Entrance cannot be seen at night | • Power not connected to camera IR night illumination.  Connect 1 to + on camera. |

| Speech Problems | |
|---|---|
| Loud tone at the entrance speaker. (Acoustic feedback) | • Volume controls set too high<br>• Broken Audio 1 or 2 wire in the cabling.<br>• Intermittent or broken wire in Data A or B.<br>• Videophone has reset; see power faults. |
| No speech from videophone to entrance | • Missing R core to door controller<br>• Broken Audio 1 or 2 connections. |
| No speech from entrance to videophone | • Missing T core to door controller<br>• Broken Audio 1 or 2 connections. |

| **Call Problems** | |
|---|---|
| Videophone does not ring or flash when called | • Videophone off hook or muted on full mute.<br>• No power to videophone; check that red lamp flashes when handset is picked up.<br>• Data wiring has a fault, Data A or B broken.<br>• 0V to controller missing on separately powered videophone. |
| No extension videophone rings or flashes when called | • Master videophone off hook or muted on full mute. |

| **Lock Release Problems** | |
|---|---|
| Lock release does not operate<br><br>**TEST:**<br>Press ‘**Test’** Button on Door Controller (when system idle): | ➔ Confirm ‘LOCK’ LED illuminates for 3 seconds<br>➔ Check Output Voltage at LOCK terminals<br>• Connections to Lock Release are open or shorted<br>• Voltage drop due to insufficient cable capacity<br>• Lock current is too high; Power supply is resetting |
| Lock release operates all the time or in reverse | • Check fail safe/fail secure SW2-4 selection matches the lock type. |

## Specifications

| **BS Videophone** | |
|---|---|
| Size | 210mm x 260mm x 60mm |
| Fixing | Wall Mounted |
| Supply Voltage | 13.5V minimum – local power supply only.<br>20V to 28V typical |
| Current Consumption | 750mA @ 13.5V active<br>28mA @28V idle |
| Buzzer Mute Time | Disabled, 1minute through 10 hours, indefinite |

| **PS4 Power Supply** | |
|---|---|
| Size | 236mm x 105mm x 81mm |
| Output Voltage (regulated) | 13.5V d.c. minimum<br>13.8V d.c. nominal<br>14.1V d.c. maximum |
| Output Current | 3A continuous<br>4A peak (5 minutes max) |
| Mains Supply Internal Fuse | Not user replaceable |
| Supply Voltage | 230V 50Hz nominal |
| Temperature Range | 0 ºC to 50 ºC |

| **Model 61 Speech Unit** | |
|---|---|
| Size | 98mm x 60mm x 24mm |
| Supply Voltage | 10V d.c. minimum<br>15V d.c. maximum |
| Current consumption | 100mA d.c. maximum |

| **Model CAMBS Camera** | |
|---|---|
| Size | 60mm x 57mm x 31mm |
| Supply Voltage | 10V d.c. minimum<br>15V d.c. maximum |
| Current consumption | 175mA maximum without IR<br>215mA maximum with IR (Link 1 to +) |
| Image Device | 1/3" CCD |
| Sensitivity | 0.1 lux |
| Minimum Focus | 100mm |
| Viewing Angle | 92º (typical) |

| **BSD1 Door controller** | |
|---|---|
| Size | 185mm x 230mm x 42mm |
| Supply Voltage | 10.8V min, 13.8V typical, 15V max |
| Current Consumption | 150mA idle @13.8V with 1 videophone |

# bell*issimo* 1 Way Video Entry System

## Important Safety Information

Connections to the 240VAC mains supply must be carried out by a qualified electrician or similar competent person, and made in accordance with current legislative requirements. A two-pole switch (as provided by a Consumer Unit or Switch-Fuse) must be included to isolate both Live and Neutral during Installation or Maintenance. The circuit must be protected by a fuse or other current-limiting device, rated according to the capacity of the cable used, up to a maximum of 10A. Use only mains cable to BS6004 or equivalent, within the following specified limits:

| | Min | Max |
|---|---|---|
| Conductor Diameter | 1.0mm (0.8mm$^2$) | 2.25mm (4mm$^2$) |
| Cable Diameter | 4.0mm | 8.0mm |

### Model 840 PSU (with battery standby)

The Model 840 PSU must be placed in a protected indoor environment such as an electrical cupboard. It must be secured to the wall with adequate fixings so that there is no possibility of it falling. The Lead-Acid Battery for the Standby Power Supply is shipped in separate packaging. It should only be connected once the system has been fully tested. Connection is made by 2 leads with spade terminals; observe the correct polarity - red to positive, black to negative. Care must be taken to ensure that the terminals of the battery are not shorted together by metal objects, as this may constitute a Fire Hazard. The Control Cabinet is IP55 rated (to exclude dust) and is vented to avoid the build-up of gases. Do not block any vents that may be apparent.

A good mains safety earth must be connected to the cabinet housing the power supply

Where the power supply is fitted with a replaceable internal mains fuse and or battery fuse, always replace with the same type as indicated on the power supply. The fuse must be approved to BS EN 60127 or equivalent.

| Power Supply Model | Mains Fuse (Time Delay) | Battery Fuse (Quick Blow) |
|---|---|---|
| 840 | T2A 20mm HBC (HRC) Ceramic | F4A 20mm Glass |

### Model PS4 and 340C Power Supplies

These power supplies must be wall-mounted onto plasterboard, or a similar non-conductive material, in a protected indoor environment such as an electrical cupboard.

When fitting the power supply cable (both mains and low voltage) ensure the cable entry cut-outs in the enclosure lid are no larger than necessary for the cable diameter used and under no circumstances must they be taken beyond the outer cut-out zones.

### Videophone

The display module of the videophone has a high voltage circuit (2KV), which represents a shock hazard. Do not remove the inner cover of the videophone assembly, there are no user adjustments requiring this.